

## Appendix II

### FEMA's Fire Hazard Severity Forms

The Federal Emergency Management Agency has developed a number of guides and procedures to assist communities, counties, and states with assessing risk for a variety of natural hazards, including wildfire. One approach that FEMA recommends is to assess communities using a variety of standardized evaluation criteria. The forms on the following pages detail the assessments completed for the communities within Payette County that have been listed on the Federal Register of Communities at Risk, using these standardized forms and their criteria.

The first evaluation completed for these communities is the **Fire Hazard Severity** determination. This form uses a variety of criteria in order to make a categorical ranking for each community. The Fire Hazard Severity Table (below) determines fire hazard severity based on the standard FEMA uses to compare (for example) Payette County, Idaho, with another county in Idaho, or any other state. Communities may have more than one classification depending on the degrees of the slope and fuel models. For example, if someone were to observe an average of five critical fire weather days per year in a given area, observe heavy fuel, and less than 40° slopes, then that community is in a high fire hazard area. If the average number of days of critical fire weather per year increases above eight, that community would be in an extreme fire hazard area. The table is subjective, but allows comparisons between communities.

#### Fire Hazard Severity

Fuel Classification	Critical Fire Weather Frequency								
	< 1 Day/Year			2 to 7 Days/Year			> 8 Days/Year		
	Slope (%)			Slope (%)			Slope (%)		
	< 40	41-60	> 61	< 40	41-60	> 61	< 40	41-60	> 61
Light Fuel	M	M	M	M	M	M	M	M	H
Medium Fuel	M	M	H	H	H	H	E	E	E
Heavy Fuel	H	H	H	H	E	E	E	E	E

Source: Urban Wildland Interface Code: 2000

M = Moderate hazard    H = High hazard    E = Extreme hazard

(from FEMA's "Understanding Your Risks; identifying hazards and estimating losses", August 2001, FEMA 386-2) State and local mitigation planning how-to-guide.)

Critical Fire Weather Frequency (CFWF) is not recorded by agencies operating in the state of Idaho. Red Flag Warnings posted by the US Forest Service and other agencies is roughly analogous to the CFWF but not identical. Daily readings from weather service stations was accessed to determine a county wide ranking of "> 8 days per year" average. In any given year, the actual number of days observed may be more or less.

Slope was determined from an interactive GIS layer by creating a polygon around a community representing the area that most likely encompasses the immediate threat area to the community from a wildfire. The average slope for that polygon was calculated along with statistics on this

average. Using recommendations from FEMA publications, the steepest 75% of the region was used to represent the slope impact on wildfires. For this reason, the category for slope will generally appear to be steeper than observations on the ground might otherwise indicate.

Fuel classification was determined from the Fire Prone Landscapes assessment described in the Plan. This assessment created data ranked from 0 (low) to 100 (high). As was done with the slope calculation, fire prone landscapes scores were averaged for the impact area and statistics were determined for the amount of variation. The highest 95% of values were used to calculate the impact of fuels on wildland fires around communities. Resulting values were divided by 10 to create a scale from 1 to 10 for this analysis. These values (0-10) were used in combination with the ground cover (rangeland or forestland) to assign light, medium, and high categories. Light fuels were assigned to rangeland areas regardless of the Fire Prone Landscape rating. Medium fuels were forestland cover types with a Fire Prone Landscapes ranking from 0 to 5, with Heavy fuels assigned to forestlands with a score of 6 and higher.

A final classification was selected based on this information with the lowest category on the form Moderate, then to High and finally Extreme. The FEMA forms do not have a category for Low. This score was then reported on the header of the Wildfire Hazard Rating Form.

The **Wildfire Hazard Rating Form** differs from the **Fire Hazard Severity** form in that the latter describes the environmental factors potentially affecting a community or subdivision, while the former describes actual factors leading to the ability of residents and emergency service personnel to respond to the event of a wildfire. The Wildfire Hazard Rating Form is completed using subjective observations of a community. These ratings will change over time and should be updated as needed to better reflect changes in each community.

## Payette

FEMA's Fire Hazard Severity Criteria									
Fuel Classification	Critical Fire Weather Frequency								
	< 1 Day/Year			2 to 7 Days/Year			>8 Days/Year		
	Slope %			Slope %			Slope %		
	<40%	41-60%	>61%	<40%	41-60%	>61%	<40%	41-60%	>61%
Light Fuel	M	M	M	M	M	M	M	M	H
Medium Fuel	M	M	H	H	H	H	E	E	E
Heavy Fuel	H	H	H	H	E	E	E	E	E

M = Moderate Hazard, H = High Hazard, E = Extreme Hazard

Source: Urban Wildland Interface Code: 2000

<b>This Community:</b>	<b>Payette</b>
<b>CFW Frequency:</b>	2 to 7 Days/Year
<b>Slopes:</b>	>61%
<b>FPL Score:</b>	9
<b>Landcover:</b>	Cat: Light Fuel Rangeland

Fire Prone Landscape Results	
Min	4
Average	49.17
Max	88
STD	19.33
Upper 95% CI	87.1
Score	9

Slope Analysis (%)	
Min	0.0
Average	42.4
Max	557.0
STD	45.6
Upper 75% CI	118.6
Category	>61%

<b>Fire Hazard Severity Rating</b> <b>FEMA Hazard Rating System</b>
→ <b>M</b> ←

**Wildfire Hazard Rating Form**  
**Payette County, Idaho**  
**Fire Mitigation Plan**

**Name of Community:** Payette **Date:** 12-Jan-04

**Landcover:** Rangeland **GPS Point Name** \_\_\_\_\_

**WUI Condition:** Rural

**Overall Wildfire Hazard Rating: Low Hazard**

**Potential Fire Hazard Severity: Moderate Hazard**

**Comments:** Wildlands abut along the east fringe, with majority of community surrounded by agricultural land.

Very little direct threat to community with the exception of a few rural ranches,

**Evaluator:** Homik

Points	Points
<b>A. Community Design</b>	
1. Ingress / Egress	
Three or more primary roads .....1	_____
Two or more primary roads .....2	_____ <b>2</b>
One Road .....3	_____
One-way-in, one-way-out .....5	_____
2. Width of Primary roads	
20 feet or more .....1	_____ <b>1</b>
20 feet or less .....3	_____
3. Accessibility	
Road grade 5% or less .....1	_____
Road grade 5% or more .....3	_____ <b>2</b>
Road grade 10% or more .....5	_____
4. Secondary Road Terminus	
Loop roads, cul-de-sacs with outside turning radius of 45 feet or greater .....1	_____ <b>2</b>
Cul-de-sac turnaround radius is less than 45 feet .....2	_____
Dead-end roads 200 feet or less in length .....3	_____
Dead-end roads greater than 200 feet long .....5	_____
5. Average lot size	
10 acres or larger .....1	_____
≥ 1 acre, < 10 acres .....3	_____ <b>3</b>
≤ 1 acre .....5	_____
6. Street Signs	
Signs with names and numbers .....1	_____
Signs with names present .....2	_____ <b>2</b>
No Street Signs .....5	_____
<b>B. Vegetation</b>	
1. Fire Prone Landscape Rating	
1 - 10 scale ..... 1-10	_____ <b>9</b>
2. Defensible Space	
70% or more of site .....1	_____
≥ 30%, ≤ 70% .....3	_____ <b>1</b>
≤ 30% of site .....5	_____
<b>C. Topography</b>	
1. Predominant Slope	
≤ 8% .....1	_____
> 8% ≤ 20% .....4	_____
> 20% ≤ 30% .....7	_____ <b>4</b>
> 30% .....10	_____
<b>D. Roofing Material</b>	
Class A Rated .....1	_____
Class B Rated .....3	_____ <b>3</b>
Class C Rated .....5	_____
Non-Rated Roofing material .....10	_____
<b>E. Fire Protection - Water Source</b>	
500 GPM Hydrant within 1,000' .....1	_____
Hydrant farther than 1,000' or draft site .....2	_____ <b>3</b>
Water Source within 20 minutes or less, round trip .....5	_____
Water source farther than 20 minutes, but less than 45 minutes .....7	_____
Water source farther than 45 minutes round trip .....10	_____
<b>F. Existing Building Construction Materials</b>	
Non-combustible siding/deck .....1	_____
Non-combustible siding BUT a combustible deck .....5	_____ <b>5</b>
Combustible siding and deck .....10	_____
<b>G. Utilities</b>	
All underground utilities .....1	_____ <b>3</b>
One underground, one above ground .....3	_____
All above ground .....5	_____
<b>H. Fire Protection Services</b>	
Good Rural Department Coverage .....1	_____ <b>3</b>
Limited Rural Department Coverage .....5	_____
No Rural Department Coverage .....10	_____
<b>Total Score For Community</b>	
_____ <b>43</b>	
<b>Rating Scale</b>	
Moderate Hazard	45-65
High Hazard	66-79
Extreme Hazard	80+

Source: Urban Wildland Interface Code 2000, FEMA, version 1.0 August 2001 with modification by Northwest Management, Inc.

**Fruitland**

<b>FEMA's Fire Hazard Severity Criteria</b>									
<b>Fuel Classification</b>	<b>Critical Fire Weather Frequency</b>								
	<b>&lt; 1 Day/Year</b>			<b>2 to 7 Days/Year</b>			<b>&gt;8 Days/Year</b>		
	<b>Slope %</b>			<b>Slope %</b>			<b>Slope %</b>		
	<b>&lt;40%</b>	<b>41-60%</b>	<b>&gt;61%</b>	<b>&lt;40%</b>	<b>41-60%</b>	<b>&gt;61%</b>	<b>&lt;40%</b>	<b>41-60%</b>	<b>&gt;61%</b>
<b>Light Fuel</b>	M	M	M	M	M	M	M	M	H
<b>Medium Fuel</b>	M	M	H	H	H	H	E	E	E
<b>Heavy Fuel</b>	H	H	H	H	E	E	E	E	E

M = Moderate Hazard, H = High Hazard, E = Extreme Hazard

Source: Urban Wildland Interface Code: 2000

<b>This Community:</b>	<b>Fruitland</b>
<b>CFW Frequency:</b>	2 to 7 Days/Year
<b>Slopes:</b>	>61%
<b>FPL Score:</b>	9
<b>Landcover:</b>	Cat: Light Fuel Rangeland

<b>Fire Prone Landscape Results</b>	
Min	4
Average	49.17
Max	88
STD	19.33
Upper 95% CI	87.1
Score	9

<b>Slope Analysis (%)</b>	
Min	0.0
Average	42.4
Max	557.0
STD	45.6
Upper 75% CI	118.6
Category	>61%

<b>Fire Hazard Severity Rating</b> <b>FEMA Hazard Rating System</b>
→ <b>M</b> ←

**Wildfire Hazard Rating Form**  
**Payette County, Idaho**  
**Fire Mitigation Plan**

**Name of Community:** Fruitland **Date:** 12-Jan-04

**Landcover:** Rangeland **GPS Point Name** \_\_\_\_\_

**WUI Condition:** Rural

**Overall Wildfire Hazard Rating: Low Hazard**

**Potential Fire Hazard Severity: Moderate Hazard**

**Comments:** Community is surrounded by agricultural lands, with very few native fuels in the vicinity. Irrigation and ranching/agricultural practices maintain low risk to community

**Evaluator:** Homik

Points	Points
<b>A. Community Design</b>	
1. Ingress / Egress	
Three or more primary roads .....1	_____
Two or more primary roads .....2	<u>2</u>
One Road .....3	_____
One-way-in, one-way-out .....5	_____
2. Width of Primary roads	
20 feet or more .....1	<u>1</u>
20 feet or less .....3	_____
3. Accessibility	
Road grade 5% or less .....1	_____
Road grade 5% or more .....3	<u>1</u>
Road grade 10% or more .....5	_____
4. Secondary Road Terminus	
Loop roads, cul-de-sacs with outside turning radius of 45 feet or greater .....1	<u>2</u>
Cul-de-sac turnaround radius is less than 45 feet .....2	_____
Dead-end roads 200 feet or less in length .....3	_____
Dead-end roads greater than 200 feet long .....5	_____
5. Average lot size	
10 acres or larger .....1	_____
≥ 1 acre, < 10 acres .....3	<u>2</u>
≤ 1 acre .....5	_____
6. Street Signs	
Signs with names and numbers .....1	_____
Signs with names present .....2	<u>2</u>
No Street Signs .....5	_____
<b>B. Vegetation</b>	
1. Fire Prone Landscape Rating	
1 - 10 scale ..... 1-10	<u>9</u>
2. Defensible Space	
70% or more of site .....1	_____
≥ 30%, ≤ 70% .....3	<u>1</u>
≤ 30% of site .....5	_____
<b>C. Topography</b>	
1. Predominant Slope	
≤ 8% .....1	_____
> 8% ≤ 20% .....4	_____
> 20% ≤ 30% .....7	<u>1</u>
> 30% .....10	_____
<b>D. Roofing Material</b>	
Class A Rated .....1	_____
Class B Rated .....3	<u>3</u>
Class C Rated .....5	_____
Non-Rated Roofing material .....10	_____
<b>E. Fire Protection - Water Source</b>	
500 GPM Hydrant within 1,000' .....1	_____
Hydrant farther than 1,000' or draft site .....2	<u>2</u>
Water Source within 20 minutes or less, round trip .....5	_____
Water source farther than 20 minutes, but less than 45 minutes .....7	_____
Water source farther than 45 minutes round trip .....10	_____
<b>F. Existing Building Construction Materials</b>	
Non-combustible siding/deck .....1	_____
Non-combustible siding BUT a combustible deck .....5	<u>5</u>
Combustible siding and deck .....10	_____
<b>G. Utilities</b>	
All underground utilities .....1	<u>3</u>
One underground, one above ground .....3	_____
All above ground .....5	_____
<b>H. Fire Protection Services</b>	
Good Rural Department Coverage .....1	<u>2</u>
Limited Rural Department Coverage .....5	_____
No Rural Department Coverage .....10	_____
<b>Total Score For Community</b>	
<u>36</u>	
<b>Rating Scale</b>	
Moderate Hazard	45-65
High Hazard	66-79
Extreme Hazard	80+

Source: Urban Wildland Interface Code 2000, FEMA, version 1.0 August 2001 with modification by Northwest Management, Inc.

## New Plymouth

FEMA's Fire Hazard Severity Criteria									
Fuel Classification	Critical Fire Weather Frequency								
	< 1 Day/Year			2 to 7 Days/Year			>8 Days/Year		
	Slope %			Slope %			Slope %		
	<40%	41-60%	>61%	<40%	41-60%	>61%	<40%	41-60%	>61%
Light Fuel	M	M	M	M	M	M	M	M	H
Medium Fuel	M	M	H	H	H	H	E	E	E
Heavy Fuel	H	H	H	H	E	E	E	E	E

M = Moderate Hazard, H = High Hazard, E = Extreme Hazard

Source: Urban Wildland Interface Code: 2000

<b>This Community:</b>	<b>New Plymouth</b>
<b>CFW Frequency:</b>	2 to 7 Days/Year
<b>Slopes:</b>	>61%
<b>FPL Score:</b>	9
<b>Landcover:</b>	Cat: Light Fuel Rangeland

Fire Prone Landscape Results	
Min	4
Average	49.17
Max	88
STD	19.33
Upper 95% CI	87.1
Score	9

Slope Analysis (%)	
Min	0.0
Average	42.4
Max	557.0
STD	45.6
Upper 75% CI	118.6
Category	>61%

<b>Fire Hazard Severity Rating</b> <b>FEMA Hazard Rating System</b>
→ <b>M</b> ←

**Wildfire Hazard Rating Form**  
**Payette County, Idaho**  
**Fire Mitigation Plan**

Name of Community: New PlymouthDate: 12-Jan-04Landcover: Rangeland

GPS Point Name \_\_\_\_\_

WUI Condition: Rural**Overall Wildfire Hazard Rating: Low Hazard****Potential Fire Hazard Severity: Moderate Hazard**

**Comments:** Community is surrounded by agricultural lands, with very few native fuels in the vicinity. Irrigation and ranching/agricultural practices maintain low risk to community

Evaluator: Homik

Points	Points
<b>A. Community Design</b>	
1. Ingress / Egress	
Three or more primary roads .....1	_____
Two or more primary roads .....2	_____ <b>2</b>
One Road .....3	_____
One-way-in, one-way-out .....5	_____
2. Width of Primary roads	
20 feet or more .....1	_____ <b>1</b>
20 feet or less .....3	_____
3. Accessibility	
Road grade 5% or less .....1	_____
Road grade 5% or more .....3	_____ <b>1</b>
Road grade 10% or more .....5	_____
4. Secondary Road Terminus	
Loop roads, cul-de-sacs with outside turning radius of 45 feet or greater .....1	_____ <b>2</b>
Cul-de-sac turnaround radius is less than 45 feet .....2	_____
Dead-end roads 200 feet or less in length .....3	_____
Dead-end roads greater than 200 feet long .....5	_____
5. Average lot size	
10 acres or larger .....1	_____
≥ 1 acre, < 10 acres .....3	_____ <b>2</b>
≤ 1 acre .....5	_____
6. Street Signs	
Signs with names and numbers .....1	_____
Signs with names present .....2	_____ <b>2</b>
No Street Signs .....5	_____
<b>B. Vegetation</b>	
1. Fire Prone Landscape Rating	
1 - 10 scale ..... 1-10	_____ <b>9</b>
2. Defensible Space	
70% or more of site .....1	_____
≥ 30%, ≤ 70% .....3	_____ <b>1</b>
≤ 30% of site .....5	_____
<b>C. Topography</b>	
1. Predominant Slope	
≤ 8% .....1	_____
> 8% ≤ 20% .....4	_____
> 20% ≤ 30% .....7	_____ <b>1</b>
> 30% .....10	_____
<b>D. Roofing Material</b>	
Class A Rated .....1	_____
Class B Rated .....3	_____ <b>3</b>
Class C Rated .....5	_____
Non-Rated Roofing material .....10	_____
<b>E. Fire Protection - Water Source</b>	
500 GPM Hydrant within 1,000' .....1	_____
Hydrant farther than 1,000' or draft site .....2	_____ <b>2</b>
Water Source within 20 minutes or less, round trip .....5	_____
Water source farther than 20 minutes, but less than 45 minutes .....7	_____
Water source farther than 45 minutes round trip .....10	_____
<b>F. Existing Building Construction Materials</b>	
Non-combustible siding/deck .....1	_____
Non-combustible siding BUT a combustible deck .....5	_____ <b>5</b>
Combustible siding and deck .....10	_____
<b>G. Utilities</b>	
All underground utilities .....1	_____ <b>3</b>
One underground, one above ground .....3	_____
All above ground .....5	_____
<b>H. Fire Protection Services</b>	
Good Rural Department Coverage .....1	_____ <b>2</b>
Limited Rural Department Coverage .....5	_____
No Rural Department Coverage .....10	_____
<b>Total Score For Community</b>	
_____ <b>36</b>	
<b>Rating Scale</b>	
Moderate Hazard	45-65
High Hazard	66-79
Extreme Hazard	80+

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